

What is claimed is:

1. A semiconductor device comprising:
a via-contact;
5 a main wire having an end connected to the via-contact; and
an extension extended from the end of the main wire beyond the via-contact, the width of
the extension being equal to or narrower than the width of the main wire.
2. The semiconductor device of claim 1, wherein:
10 the extension is in line with the main wire.
3. The semiconductor device of claim 1, wherein:
the extension is orthogonal to the main wire.
- 15 4. A method of designing a semiconductor device having X (X being a natural number)
wiring layers, comprising the steps of:
arranging functional blocks and elements in a chip area with the use of an automatic layout
tool;
arranging main wires in a layer N (N satisfying $0 \leq N \leq X-1$), main wires in a layer $N+1$,
20 and via-contacts in the layer N with the use of the automatic layout tool, to connect the functional
blocks and elements to one another through the main wires and via-contacts; and
arranging extensions that extend in line with the main wires in the layers N and $N+1$,
together with the via-contacts in the layer N , with the use of the automatic layout tool.
- 25 5. The method of claim 4, wherein the extensions in the layer N include:
the via-contacts themselves to electrically connect the main wires in the layer N to the main
wires in the layer $N+1$;
an extension formed in the layer $N+1$ on and beyond each of the via-contacts and in contact
with an end of a corresponding one of the main wires formed in the layer $N+1$, the width of the
extension being equal to or narrower than the width of the main wire; and
30 an extension formed in the layer N under and beyond each of the via-contacts and in contact
with an end of a corresponding one of the main wires formed in the layer N , the width of the extension
being equal to or narrower than the width of the main wire.
- 35 6. The method of claim 4, wherein:
arranging each of the extensions formed in the layer $N+1$, that is in line with the
corresponding main wire and is extended beyond the corresponding via-contact; and
arranging each of the extensions formed in the layer N , that is in line with the corresponding

main wire and is extended beyond the corresponding via-contact.

7. The method of claim 4, wherein:

- 5 arranging each of the extensions formed in the layer N+1, that is orthogonal to the corresponding main wire and is extended beyond the corresponding via-contact; and
arranging each of the extensions formed in the layer N, that is orthogonal to the corresponding main wire and is extended beyond the corresponding via-contact.

8. A recording medium for storing a program that is used to design a semiconductor
10 device having X (X being a natural number) wiring layers, wherein the program includes the steps of:
arranging functional blocks and elements in a chip area with the use of an automatic layout tool;

- arranging main wires in a layer N (N satisfying $0 \leq N \leq X-1$), main wires in a layer N+1,
and via-contacts in the layer N with the use of the automatic layout tool, to connect the functional
15 blocks and elements to one another through the main wires and via-contacts; and
arranging extensions that extend in line with the main wires in the layers N and N+1,
together with the via-contacts in the layer N, with the use of the automatic layout tool.

9. The recording medium of claim 8, wherein:

- 20 arranging each of the extensions formed in the layer N+1, that is in line with the corresponding main wire and is extended beyond the corresponding via-contact; and
arranging each of the extensions formed in the layer N, that is in line with the corresponding main wire and is extended beyond the corresponding via-contact.

10. The recording medium of claim 8, wherein:

- 25 arranging each of the extensions formed in the layer N+1, that is orthogonal to the corresponding main wire and is extended beyond the corresponding via-contact; and
arranging each of the extensions formed in the layer N, that is orthogonal to the corresponding main wire and is extended beyond the corresponding via-contact.

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